Lesson Practice 81

a. **$\frac{2}{3}$;** $\frac{8 \div 4}{12 \div 4} = \frac{2}{3}$

b. **B;** The terms of $\frac{3}{8}$ are 3 and 8. The only whole number that divides both 3 and 8 is 1. Since dividing by 1 does not make the terms smaller, the fraction $\frac{3}{8}$ cannot be reduced.

c. **$\frac{1}{4}$;** $\frac{3}{8} - \frac{1}{8} = \frac{2}{8}$

We can reduce $\frac{2}{8}$ by dividing each term by 2.

$\frac{2 \div 2}{8 \div 2} = \mathbf{\frac{1}{4}}$

d. **$\frac{3}{5}$;** $\frac{3}{10} + \frac{3}{10} = \frac{6}{10}$

We can reduce $\frac{6}{10}$ by dividing each term by 2.

$\frac{6 \div 2}{10 \div 2} = \mathbf{\frac{3}{5}}$

e. **$\frac{1}{3}$;** $\frac{2}{3} \times \frac{1}{2} = \mathbf{\frac{2}{6}}$

We can reduce $\frac{2}{6}$ by dividing each term by 2.

$\frac{2 \div 2}{6 \div 2} = \mathbf{\frac{1}{3}}$

f. **$\frac{1}{5}$;** $\frac{6}{30}$ is equal to $\frac{1}{5}$

g. **$1\frac{1}{3}$;** We reduced a mixed number by reducing its fraction. Since the fraction $\frac{3}{9}$ reduces to $\frac{1}{3}$, the mixed number $1\frac{3}{9}$ reduces to $1\frac{1}{3}$.

h. **$2\frac{2}{3}$;** We reduced a mixed number by reducing its fraction. Since the fraction $\frac{6}{9}$ reduces to $\frac{2}{3}$, the mixed number $2\frac{6}{9}$ reduces to $2\frac{2}{3}$.

i. **$2\frac{1}{2}$;** We reduced a mixed number by reducing its fraction. Since the fraction $\frac{5}{10}$ reduces to $\frac{1}{2}$, the mixed number $2\frac{5}{10}$ reduces to $2\frac{1}{2}$.

j. **$3\frac{1}{2}$;** The sum of the mixed fractions is $3\frac{2}{4}$. We reduced a mixed number by reducing its fraction. Since the fraction $\frac{2}{4}$ reduces to $\frac{1}{2}$, the mixed number $3\frac{2}{4}$ reduces to $3\frac{1}{2}$.

k. **$6\frac{3}{4}$;** The sum of the mixed fractions is $6\frac{6}{8}$. We reduced a mixed number by reducing its fraction. Since the fraction $\frac{6}{8}$ reduces to $\frac{3}{4}$, the mixed number $6\frac{6}{8}$ reduces to $6\frac{3}{4}$.

l. **$4\frac{1}{3}$;** The difference of the mixed fractions is $4\frac{4}{12}$. We reduced a mixed number by reducing its fraction. Since the fraction $\frac{4}{12}$ reduces to $\frac{1}{3}$, the mixed number $4\frac{4}{12}$ reduces to $4\frac{1}{3}$.

Written Practice 81

1. **37;** $135 - 98 = 37$

2. **114;** Find the average by combining all the scores and dividing by 3.
$(109 + 98 + 135) \div 3$
$342 \div 3 = \mathbf{114}$

3. **64 in.;** There are 12 inches in each foot.
$(5 \times 12) + 4$
$60 + 4 = \mathbf{64\ inches}$

4. $\begin{array}{r} \overset{2}{\cancel{3}}\overset{1}{2}.6 \\ -\ 26.5 \\ \hline \mathbf{6.1} \end{array}$

5. **$\frac{8}{12}$, $\frac{3}{12}$, $\frac{11}{12}$;** We multiply $\frac{2}{3}$ by $\frac{4}{4}$ and $\frac{1}{4}$ by $\frac{3}{3}$. $\frac{2}{3} \times \frac{4}{4} = \mathbf{\frac{8}{12}}$ and $\frac{1}{4} \times \frac{3}{3} = \mathbf{\frac{3}{12}}$. Then we add $\frac{8}{12}$ and $\frac{3}{12}$ to find their sum. $\frac{8}{12} + \frac{3}{12} = \mathbf{\frac{11}{12}}$

6. ~~21~~, ~~22~~, **23**, ~~24~~, ~~25~~, ~~26~~, ~~27~~, ~~28~~, **29**

7. $\frac{10 \div 2}{12 \div 2} = \mathbf{\frac{5}{6}}$

8. **60 mm;** The width of the rectangle is equal to $20\ mm \div 2 = 10\ mm$.
Perimeter $= 20\ mm + 10\ mm + 20\ mm + 10\ mm =$ **60 mm**

9. **a. 6 band members;** $\frac{1}{4} \times 24 = \frac{24}{4} = 6$

b. 3 band members; $\frac{1}{2} \times 6 = \frac{6}{2} = 3$

c. $\frac{1}{8}$; $\frac{3}{24}$ can be reduced by dividing both numbers by 3. $\frac{3}{24} = \frac{1}{8}$

10. **200 sq. mm;** $20\ mm \times 10\ mm = 200$ sq. mm

11. **32 millimeters;** If segment *QR* is twice as long as segment *RS*, then it makes up $\frac{2}{3}$ of segment *QS*. $\frac{2}{3} \times 48 = \frac{96}{3}$

12. $\begin{array}{r} 6.25 \\ +\ 3.4 \\ \hline \mathbf{9.65} \end{array}$

13. $\begin{array}{r} \overset{5}{\cancel{6}}\overset{1}{.}25 \\ -\ 3.4 \\ \hline \mathbf{2.85} \end{array}$

14. 

15. **$14.50**
6)$87.00
−6
27
−24
30
−30
00
−0
0

16. **60 R 38**
40)2438
−240
38
−0
38

17. **$586\frac{6}{9} = 586\frac{2}{3}$**
9)2280
−45
78
−72
60
−54
6

18. $10 − ($5.80 + 28¢)

$5.80
+ $0.28
$10 − $6.08

$10.00
− $ 6.08
$ 3.92

19. $5\frac{3}{5} + \left(4 - 1\frac{3}{5}\right)$

$5\frac{3}{5} + \left(3\frac{5}{5} - 1\frac{3}{5}\right)$

$5\frac{3}{5} + 2\frac{2}{5} = 7\frac{5}{5} = \mathbf{8}$

20. $\frac{3 \div 2}{6 \div 2} = \mathbf{\frac{1}{2}}$

21. $\frac{4}{3} \times \frac{1}{2} = \frac{4}{6} \longrightarrow \frac{4 \div 2}{6 \div 2} = \mathbf{\frac{2}{3}}$

22. $\frac{10}{7} \times \frac{7}{10} = \frac{70}{70} = \mathbf{1}$

23. **C**

24. a. $6.50
× 30
$195.00

b. $195
− $135
$ 60

25. a. $\frac{1}{2}$; There are 3 even numbers on the cube, so the probability is $\frac{3}{6}$ or $\frac{1}{2}$.

b. **Sample: the probability of rolling an odd number with one number cube.**

26. a. **4 students;** 1 + 3 = 4

b. **13 students;** 1 + 5 + 6 + 1 = 13

27. **B**

28. 15% is equal to $\frac{15}{100}$, which is reduced to $\frac{15 \div 5}{100 \div 5} = \mathbf{\frac{3}{20}}$

29. $\mathbf{\frac{1}{4} < \frac{1}{2}}$

30. **Use compatible numbers by changing three lengths to multiples of 25, and then adding; 275 + 250 + 250 + 175 = 950 miles**

Early Finishers

a. $1\frac{1}{8} + 1\frac{5}{8} = 2\frac{6}{8} = \mathbf{2\frac{3}{4}}$ **miles**

b. $5 - 2\frac{3}{4}$

$4\frac{4}{4} - 2\frac{3}{4} = \mathbf{2\frac{1}{4}}$ **miles**

Lesson Practice 82

a. The factors of 6 are 1, 2, 3, and 6.
The factors of 9 are 1, 3, and 9.
The greatest common factor (GCF) of 6 and 9 is **3.**

b. The factors of 6 are 1, 2, 3, and 6.
The factors of 12 are 1, 2, 3, 4, 6, and 12.
The greatest common factor (GCF) of 6 and 12 is **6.**

c. The factors of 15 are 1, 3, 5, and 15.
The factors of 100 are 1, 2, 4, 5, 10, 20, 25, 50, and 100.
The greatest common factor (GCF) of 15 and 100 is **5.**

d. The factors of 6 are 1, 2, 3, and 6.
The factors of 10 are 1, 2, 5, and 10.
The greatest common factor (GCF) of 6 and 10 is **2.**

e. The factors of 12 are 1, 2, 3, 4, 6, and 12.
The factors of 15 are 1, 3, 5, and 15.
The greatest common factor (GCF) of 12 and 15 is **3.**

f. The factors of 7 are 1 and 7.
The factors of 10 are 1, 2, 5, and 10.
The greatest common factor (GCF) of 7 and 10 is **1.**

g. The factors of 6 are 1, 2, 3, and 6.
The factors of 9 are 1, 3, and 9.
The greatest common factor (GCF) of 6 and 9 is 3. This means we can reduce $\frac{6}{9}$ by dividing both 6 and 9 by 3. $6 \div 3 = 2$ and $9 \div 3 = 3$. The reduced fraction is $\mathbf{\frac{2}{3}}$.

h. The factors of 6 are 1, 2, 3, and 6.
The factors of 12 are 1, 2, 3, 4, 6, and 12.
The greatest common factor (GCF) of 6 and 12 is 6. This means we can reduce $\frac{6}{12}$ by dividing both 6 and 12 by 6. $6 \div 6 = 1$ and $12 \div 6 = 2$. The reduced fraction is $\mathbf{\frac{1}{2}}$.

i. The factors of 15 are 1, 3, 5, and 15.
The factors of 100 are 1, 2, 4, 5, 10, 20, 25, 50, and 100. The greatest common factor (GCF) of 15 and 100 is 5. This means we can reduce $\frac{15}{100}$ by dividing both 15 and 100 by 5. $15 \div 5 = 3$ and $100 \div 5 = 20$. The reduced fraction is $\mathbf{\frac{3}{20}}$.

Written Practice 82

1. **$5.75;** He worked 6 hours between 8 a.m. and 2 p.m.

```
   $ 5.75
6)$34.50
  -30
    45
   -42
     30
    -30
      0
```

Use compatible numbers; $36 ÷ 6 = $6.

2. **200,000;** Round 396 to 400 and 507 to 500, then multiply $400 \times 500 = 200{,}000$.

3. **3752;** The sequence counts up by 100s.

4. **A;** Cars are about as tall as an adult.

5. $\begin{array}{r} \overset{7}{\cancel{8}}0.48 \\ -\ 65.14 \\ \hline \mathbf{15.34} \end{array}$

6. **96 inches;** An octagon has eight equal sides, so the perimeter is equal to $8 \times 12 =$ 96 inches.

7. **B;** 21 has factors of 1, 3, 7, and 21.

8. **a. 10;** The factors of 20 are 1, 2, 4, 5, 10, and 20.
The factors of 30 are 1, 2, 3, 5, 6, 10, 15, and 30.
The greatest common factor (GCF) of 20 and 30 is **10.**

   b. $\mathbf{\frac{2}{3}}$; The greatest common factor (GCF) of 20 and 30 is 10.
This means we can reduce $\frac{20}{30}$ by dividing both 20 and 30 by 10.
$20 \div 10 = 2$ and $30 \div 10 = 3$. This means $\frac{20}{30}$ reduces to $\mathbf{\frac{2}{3}}$.

9. **9 in.;** A foot has 12 inches, so $\frac{3}{4}$ of a foot is equal to $\frac{3}{4} \times 12 = \frac{36}{4} = 9$ in.

10. **B**

11. **a. 4;** $\frac{1}{3} \times 12 = \frac{12}{3} = 4$

    b. 8; $\frac{2}{3} \times 12 = \frac{24}{3} = 8$

12. $\frac{6 \div 6}{12 \div 6} = \mathbf{\frac{1}{2}}$

13. **<;** $2 \times 2 \times 2 \bigcirc 3 \times 3$
$\mathbf{8 < 9}$

14. $\frac{8}{7} = \frac{7}{7} + \frac{1}{7} = \mathbf{1\frac{1}{7}}$

15. **0;** $1 - 1 = 0$

16. $\mathbf{\frac{3}{3}}$; To change $\frac{2}{3}$ to $\frac{6}{9}$, we multiply by $\frac{3}{3}$. The fraction $\frac{3}{3}$ is equal to 1, and when we multiply by 1 we do not change the value of the number. Therefore, $\frac{2}{3}$ equals $\frac{6}{9}$.

17.
```
  2 2 2
  976.5
  470.4
  436.7
+ 98.6
 1982.2
```

18.
```
  3 9 9
  $40.00
− $32.85
  $ 7.15
```

19.
```
  3 4
  $8.47
×    70
$592.90
```

20.
```
      7285 R 5
6)43,715
  −42
    17
   −12
     51
    −48
      35
     −30
       5
```

21.
```
      88
30)2640
  −240
    240
   −240
      0
```

22.
```
    2 2
    5 5
    367
  × 418
  1 2 1
   2936
   3670
+ 146800
 153,406
```

23. **$6\frac{1}{2}$;** $6\frac{2}{4}$ can be reduced to $6\frac{1}{2}$.

24.
```
     $ 4.66
4)$18.64
  −16
    26
   −24
     24
    −24
      0
```

25. **$\frac{3}{4}$;** The probability is $\frac{6}{8}$ which can be reduced by dividing each number by 2. $\frac{6}{8} = \frac{3}{4}$

26. **D**

27. $\frac{22}{100} = \frac{11}{50}$

28. a. **8 inches;** 67 − 59 = 8 inches

b. **James;** 5 feet is equal to 60 inches

c. **62 in.;** (67 + 60 + 59) ÷ 3 = 186 ÷ 3 = 62

d. **8;** 67 − 59 = 8

e. **60**

29. Step 1: Find the height of Mt. McKinley.
4996 + 1198 = 6194
Step 2: Find the height of Mt. Foraker by subtracting the difference in height from Mt. McKinley.
6194 − 890 = **5304 meters**

30. **About 20 years; use compatible numbers by changing 1976 to 1977, or 1957 to 1956, and then subtracting.**

Early Finishers

a. $\frac{24}{36}$

b. **12;** The factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24.
The factors of 36 are 1, 2, 3, 4, 6, 9, 12, and 36.
The greatest common factor (GCF) of 24 and 36 is **12.**

c. $\frac{2}{3}$; The greatest common factor (GCF) of 24 and 36 is 12.
This means we can reduce $\frac{24}{36}$ by dividing both 24 and 36 by 12.
24 ÷ 12 = 2 and 36 ÷ 12 = 3. This means $\frac{24}{36}$ reduces to $\frac{2}{3}$.

Lesson Practice 83

a. **Rectangular solid**

b. **Cylinder**

c. **Cone**

d. **Rectangular solid**

e. **4 triangular faces**

f. **1 rectangular face**

g. **8 edges**

h. **5 vertices**

i. **Sample: $\overline{KH}$ and $\overline{IJ}$**

j. **Sample: $\overline{JO}$ and $\overline{LO}$**

k. **Sample: $\overline{IH}$ and $\overline{KL}$**

l. **C**

m. **B**

Written Practice 83

1. **3:15 p.m.; a quarter to eight is 7:45; I added $7\frac{1}{2}$ hours to 7:45, which is 3:15.**

$$\begin{array}{r} 7 \text{ hr } 45 \text{ min} \\ +\ 7 \text{ hr } 30 \text{ min} \\ \hline 14 \text{ hr } 75 \text{ min} \\ 15 \text{ hr } 15 \text{ min} \\ \hline \textbf{3:15 pm} \end{array}$$

2. **2 dimes;** The coins are likely 1 quarter, 2 pennies, and 2 dimes.

3. **23,287,420**

4. a. **8;** $\frac{1}{3} \times 24 = \frac{24}{3} = 8$

   b. **16;** $\frac{2}{3} \times 24 = \frac{48}{3} = 16$

5. **11,** ~~12~~, **13,** ~~14~~, ~~15~~, ~~16~~, **17,** ~~18~~, **19**

6. a. **4;** The factors of 4 are 1, 2, and 4. The factors of 8 are 1, 2, 4, and 8. The greatest common factor (GCF) is **4.**

   b. $\frac{1}{2}$**;** The greatest common factor (GCF) of 4 and 8 is 4. This means we can reduce $\frac{4}{8}$ by dividing both 4 and 8 by 4. $4 \div 4 = 1$ and $8 \div 4 = 2$. This means $\frac{4}{8}$ reduces to $\frac{1}{2}$.

7. a. **Cube**

   b. **6 faces**

8. **C**

9. **1.7;** The distance from 1 to 2 is divided into ten segments. The arrow indicates a point seven tenths greater than 1, which is 1.7.

10. **D**

11. $$\begin{array}{r} \overset{1}{3}.62 \\ +\ 4.5 \\ \hline \textbf{8.12} \end{array}$$

12. $$\begin{array}{r} \overset{2}{3}.\overset{16}{7}\overset{9}{0}4 \\ -\ 2.918 \\ \hline \textbf{0.786} \end{array}$$

13. $16^2 + \sqrt{16}$

    $\downarrow$

    $(16 \times 16) + \sqrt{16}$

    $256 + 4 = \mathbf{260}$

14. $$\begin{array}{r} \$\overset{1}{6}.\overset{2}{2}5 \\ \times\ \ 4 \\ \hline \textbf{\$25.00} \end{array}$$

15. $w = \frac{\$\ 14.58}{6}$;

    $$\begin{array}{r} \textbf{\$ 2.43} \\ 6\overline{)\$14.58} \\ -12 \\ \hline 25 \\ -24 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

16. $\frac{4}{12}$; $\frac{9}{12}$; $1\frac{1}{12}$; We multiply $\frac{1}{3}$ by $\frac{4}{4}$ and $\frac{3}{4}$ by $\frac{3}{3}$. $\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$ and $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$. Then we add $\frac{4}{12}$ and $\frac{9}{12}$ to find their sum. $\frac{4}{12} + \frac{9}{12} = \frac{13}{12} = 1\frac{1}{12}$

17. $\frac{6 \div 2}{8 \div 2} = \frac{3}{4}$

18. $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$

19. $$\begin{array}{r} 4\frac{1}{6} \\ +\ 2\frac{1}{6} \\ \hline 6\frac{2}{6} = 6\frac{1}{3} \end{array}$$

20. $$\begin{array}{r} 3\frac{3}{4} \\ +\ 1\frac{1}{4} \\ \hline 4\frac{4}{4} = 5 \end{array}$$

21. $$\begin{array}{rl} 5 & \longrightarrow 4\frac{4}{4} \\ -\ 1\frac{1}{4} & \longrightarrow 1\frac{1}{4} \\ \hline & \quad\ \ 3\frac{3}{4} \end{array}$$

22. **0.1 > 0.01**

23. $1\frac{1}{2}$; $\frac{3}{2} = \frac{2}{2} + \frac{1}{2} = 1\frac{1}{2}$

24. a. $$\begin{array}{r} \overset{1\,1}{\$1}0.00 \\ \$10.00 \\ \$\ \ 8.50 \\ +\ \$\ \ 6.50 \\ \hline \textbf{\$35.00} \end{array}$$

b. Before 5 p.m., the four tickets will total:

$$\begin{array}{r} \$\ \overset{2}{6}.50 \\ \times \quad 4 \\ \hline \mathbf{\$26.00} \end{array}$$

They will save:

$$\begin{array}{r} \$\overset{2}{\cancel{3}}5.00 \\ -\$26.00 \\ \hline \mathbf{\$\ 9.00} \end{array}$$

25. C

26. 140 sq. ft; Round 14 ft 2 in. to 14, and 10 ft 3 in. to 10 ft, then multiply 14 ft × 10 ft = 140 sq. ft.

27. a. Rent

b. $\mathbf{\frac{1}{4}}$

28. 9.6 cm; Rhombus has 4 equal sides, so the perimeter is 4 × 2.4 = 9.6.

29. A

30. a. 22°; 71° − 49° = 22°

b. 12°F cooler; 71°F − 59°F = 12°F

c. 10°F warmer; 59°F − 49°F = 10°F

Lesson Practice 84

a. Mean: Sum = 3 + 7 + 9 + 9 + 4 = 32
data points = 5
mean = $\frac{32}{5}$;

$$\begin{array}{r} \mathbf{6\frac{2}{5}} \\ 5\overline{)32} \\ -30 \\ \hline 0 \end{array}$$

Median: 3, 4, **7**, 9, 9
Mode is **9** because it repeats the most.
Range = 9 − 3 = **6**

b. Mean: Sum = 16 + 2 + 5 + 7 + 11 + 13 = 54
data points = 6
mean = $\frac{54}{6}$ = **9**

Median: 2, 5, (7, 11), 13, 16
→ $\frac{7 + 11}{2} = \frac{18}{2} = \mathbf{9}$

Mode: **None;** no numbers repeat
Range = 16 − 2 = **14**

c. Mean: Sum = 3 + 10 + 2 + 10 + 10 + 1 + 3 + 10 = 49
data points = 8
mean = $\frac{49}{8}$;

$$\begin{array}{r} \mathbf{6\frac{1}{8}} \\ 8\overline{)49} \\ -48 \\ \hline 1 \end{array}$$

Median: 1, 2, 3, (3, 10), 10, 10, 10
→ $\frac{3 + 10}{2} = \frac{13}{2} = \mathbf{6\frac{1}{2}}$

Mode is **10** because it repeats the most.
Range = 10 − 1 = **9**

d. Mean: Sum = 13 + 10 + 10 + 11 + 11 + 10 + 11 = 76
data points = 7
mean = $\frac{76}{7}$;

$$\begin{array}{r} \mathbf{10\frac{6}{7}} \\ 7\overline{)76} \\ -70 \\ \hline 6 \end{array}$$

Median: 10, 10, 10, **11**, 11, 11, 13
Mode is both **10** and **11** because they both repeat 3 times.
Range = 13 − 10 = **3**

Written Practice 84

1.

$$\begin{array}{r} \mathbf{\$\ 825} \\ 3\overline{)\$2475} \\ -24 \\ \hline 07 \\ -6 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

2. $\mathbf{33\frac{1}{3}\%}$; 

3. 1000 grams

4. 350,000; Round 732 to 700 and 480 to 500, then multiply 700 × 500 = 350,000

5. D

6. 0.01, 0.1, 1.0, 1.01

7. a. The factors of 8 are 1, 2, 4, and 8.
The factors of 12 are 1, 2, 3, 4, 6, and 12.
The common factors of 8 and 12 are **1, 2, and 4.**

b. The greatest common factor (GCF) of 8 and 12 is 4. This means we can reduce $\frac{8}{12}$ by dividing both 8 and 12 by 4. $8 \div 4 = 2$ and $12 \div 4 = 3$. This means $\frac{8}{12}$ reduces to $\mathbf{\frac{2}{3}}$.

8. a. **20;** $\frac{1}{4} \times 80 = \frac{80}{4} = 20$

   b. **60;** $\frac{3}{4} \times 80 = \frac{240}{4} = 60$

9. $\frac{1}{2} \times \mathbf{\frac{3}{3}} = \frac{3}{6}$

10. $\frac{4 \div 2}{6 \div 2} = \mathbf{\frac{2}{3}}$

11. **$1\frac{3}{10}$; 1.3**

12.
```
  9.9
  6.14
  7.5
+ 8.31
 31.85
```

13. Write the numbers in the same form then subtract.

```
  $10.00
- $ 0.59
  $ 9.41
```

14.
```
      22 R 12
30)672
   -60
    72
   -60
    12
```

15.
```
  $0.68
×     5
 $3.40
```

16.
```
      $0.68
5)$3.40
   -30
     40
   -40
      0
```

17. $10 - 3\frac{1}{3}$

$9\frac{3}{3} - 3\frac{1}{3} = \mathbf{6\frac{2}{3}}$

18. $\frac{3}{4} \times \frac{5}{4} = \mathbf{\frac{15}{16}}$

19. **Sample: opposite faces are parallel, and adjacent faces are perpendicular.**

20. **B**

21. **C**

22. a.
```
  $1.38   Apple juice
  $1.38   Apple juice
  $3.10   Eggs
+ $3.98   Cereal
  $9.84
```

   b.
```
      $ 2.20
8)$17.60
  -16
    16
   -16
     00
    -0
     0
```

   c. 1.38 1.38 1.94 1.94 1.94 1.94 3.10 3.98 → **$1.94**

   d. **$1.94**

   e. $3.98 − $1.38 = **$2.60**

23.

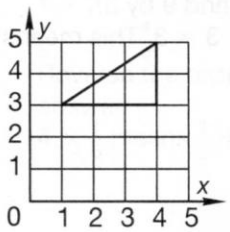
24.
```
  1
  1 1/4
+ 3/4
  2 4/4 = 3 inches
```

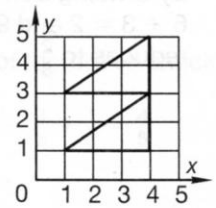
25. $\frac{90}{100} = \frac{9}{10}$; **0.9**

26. **180 degrees;** 212° − 32° = 180°

27. **Sample: use compatible numbers; 365 is about 360 and $29\frac{1}{2}$ is about 30, so the moon completes about 360 ÷ 30, or 12 cycles of phases in one year.**

28.





29. **See student work.**

30. **192 ft^2;** Area = length × width = 16 ft × 192 ft^2

Early Finishers

a. **7, 9, 9, 11, 14**

b. **7;** 14 − 7 = 7

Lesson Practice 85

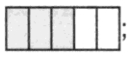
a. **Quart**

b. **8 pints;** The table tells us that a gallon is 4 quarts, and that each quart is 2 pints. Since 4 times 2 is 8, 1 gallon is the same as 8 pints.

c. **2000 milliliters;** If half liter equals 500 mL, then 1000 mL equals one liter. 1 liter times 2000 mL is equal to 2000 mL.

d. **8 ounces;** 16 ounces is equal to 1 pint; 16 ÷ 2 = 8 oz.

Written Practice 85

1.  ; $\frac{3}{5}$ = **60%**

2. **401;** 1 is the only odd digit, so it must be the last digit in the number.

3. **2.5 cm; 25 mm**

4. **80 times;** 15 seconds is $\frac{1}{4}$ of a minute, so we multiply the number of heart boats by 4 to find the total for 1 minute. 20 × 4 = 80

5. **A**

6. a. The factors of 6 are 1, 2, 3, and 6. The factors of 9 are 1, 3, and 9. The common factors of 6 and 9 are **1 and 3.**

   b. The greatest common factor (GCF) of 6 and 9 is 3. This means we can reduce $\frac{6}{9}$ by dividing both 6 and 9 by 3. 6 ÷ 3 = 2 and 9 ÷ 3 = 3. This means $\frac{6}{9}$ reduces to $\mathbf{\frac{2}{3}}$.

7. a. **12;** $\frac{1}{5} \times 60 = \frac{60}{5} = 12$

   b. **24;** $\frac{2}{5} \times 60 = \frac{120}{5} = 24$

8.
Segment *AB*	$1\frac{1}{4}$ in.
+ Segment *BC*	+ $2\frac{1}{4}$ in.
Segment *AC*	$3\frac{2}{4}$ in. → **$3\frac{1}{2}$ in.**

9. **0, 0.01, 0.1, 1.0**

10. **8 pints;** 1 quart is equal to 2 pints, so 4 quarts is equal to 4 × 2 = 8 pints.

11. **3000 mL;** One liter is equal to 1000 mL, so 3 liters is equal to 3 × 1000 mL = 3000 mL

12. **$16\frac{4}{6}$;** $16\frac{4}{6} = \mathbf{16\frac{2}{3}}$

```
     16
6)100
  -6
   40
  -36
    4
```

13.
```
  $ 17.56
  $ 12.00
+ $  0.95
  $ 30.51
```

14.
```
 4.324
-1.91
 2.414
```

15.
```
      396
  ×   405
    19 80
+ 158 40
  160,380
```

16.
```
  $1.25
×    20
 $25.00
```

17.
```
     400 R 5
9)3605
  -36
    00
   -0
    05
    -0
     5
```

18. $\$0.25$
$10\overline{)\$2.50}$
-20
50
-50
0

19. $\frac{15 \div 5}{20 \div 5} = \mathbf{\frac{3}{4}}$

20. $3 - \left(2\frac{2}{3} - 1\right)$
$3 - 1\frac{2}{3}$
$\downarrow$
$2\frac{3}{3} - 1\frac{2}{3} = \mathbf{1\frac{1}{3}}$

21. $\mathbf{\frac{6}{10}}$; $\mathbf{\frac{5}{10}}$; $\mathbf{1\frac{1}{10}}$; We multiply $\frac{3}{5}$ by $\frac{2}{2}$ and $\frac{1}{2}$ by $\frac{5}{5}$. $\frac{3}{5} \times \frac{2}{2} = \mathbf{\frac{6}{10}}$ and $\frac{1}{2} \times \frac{5}{5} = \mathbf{\frac{5}{10}}$. Then we add $\frac{6}{10}$ and $\frac{5}{10}$ to find their sum. $\frac{6}{10} + \frac{5}{10} = \frac{11}{10}$ $= \mathbf{1\frac{1}{10}}$

22. 6.15
$+\ 5.12$
$\mathbf{11.27}$

23. **3**

24. **a.** Find Genaro's height in inches and subtract 4 inches.
$[(5 \times 12) + 3] - 4$
$[60 + 3] - 4$
$63 - 4 = 59$ in.
4 R 11 ⟶ 4 feet 11 inches
$12\overline{)59}$
-48
11

b. Add 6 inches to Roberta's height.
59 in. + 6 in. = 65 in.
5 R 5 ⟶ 5 feet 5 inches
$12\overline{)65}$
-60
5

25. **4, 8, 16, 32;** The second term is $4 \times 2 = 8$. The third term is $8 \times 2 = 16$. The fourth term is $16 \times 2 = 32$.

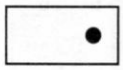
26. **About 25 times;** The probability is $\frac{1}{2}$ and $\frac{1}{2}$ of 50 is about 25 times.

27. **a. 20;** $100 - 80 = 20$

b. The mode is 90 because the score 90 occurs more often than any other score.

c. The median is 90 because it is the middle score when the scores are arranged in order.

28. **10 letters;** Justin has 3 more than Maya or $3 + 5 = 8$. Coretta has 2 more than Justin, or $2 + 8 = 10$ letters.

29. **a.** 

b. B

30. **Use rounding to the nearest ten; 150 + 150 + 130 = 430 students.**

Early Finishers

a. 5 gallons; If she serves 80 cups in total, then she will need to divide the total by 16 since there are 16 cups in 1 gallon. $80 \div 16 = 5$ gallons

b. $\mathbf{7\frac{1}{2}}$ gallons; If she serves $1\frac{1}{2}$ cups to each guest, then she will serve $1\frac{1}{2} \times 80 = 120$ total cups. Divide 120 by 16 to find the number of gallons. $120 \div 16 = 7\frac{8}{16}$ or $7\frac{1}{2}$ gallons

Lesson Practice 86

a. $\frac{1}{3} \times 4 = \frac{4}{3} = \mathbf{1\frac{1}{3}}$;
Reverse the order of factors to check the answer.
$4 \times \frac{1}{3}$ means $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{4}{3} = \mathbf{1\frac{1}{3}}$

b. $\frac{3}{5} \times 2 = \frac{6}{5} = \mathbf{1\frac{1}{5}}$;
Reverse the order of factors to check the answer.
$2 \times \frac{3}{5}$ means $\frac{3}{5} + \frac{3}{5} = \frac{6}{5} = \mathbf{1\frac{1}{5}}$

c. $\frac{2}{3} \times 2 = \frac{4}{3} = \mathbf{1\frac{1}{3}}$;
Reverse the order of factors to check the answer.
$2 \times \frac{2}{3}$ means $\frac{2}{3} + \frac{2}{3} = \frac{4}{3} = \mathbf{1\frac{1}{3}}$

d. $\frac{1}{5}$ of 4
$\downarrow\downarrow\downarrow$
$\frac{1}{5} \times 4 = \mathbf{\frac{4}{5}}$;
Reverse the order of factors to check the answer.
$4 \times \frac{1}{5}$ means $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \mathbf{\frac{4}{5}}$